

DEXIA MEIGEN, 1826 (INSECTA, DIPTERA): PROPOSED
DESIGNATION OF *MUSCA RUSTICA* FABRICIUS, 1775, AS
TYPE SPECIES. Z.N.(S.)2252

By R. W. Crosskey (*British Museum (Natural History), Cromwell Road, London SW7 5BD, England*), B. Herting (*Naturkundemuseum, Rosenstein 1, 7000 Stuttgart 1, West Germany*), L. P. Mesnil* (*Commonwealth Institute of Biological Control, Delémont, Switzerland CH-2800*), and D. M. Wood (*Biosystematics Research Institute, Canada Agriculture, Ottawa, Canada K1A 0C6*)

The purpose of this application is to ask the Commission to set aside a designation of a type species for *Dexia* Meigen, 1826 (TACHINIDAE) that became binding as the result of an early Opinion, and to designate another type species in its stead.

2. In 1922 the Commission gave a ruling in its Opinion 71 (ICZN, 1922) on the nomenclatural status of species names cited in association with generic names in Westwood's 'Synopsis of the genera of British insects' published in 1840. In the light of Westwood's own statement (p. 1 of the 'Synopsis', footnote) that the cited species were 'typical species', the Commission determined that such species are to be accepted as the type species of those genera for which there were no prior valid type fixations. The genus *Dexia* Meigen, 1826 originally proposed with 24 included species (Meigen, 1826), is one such genus. No type species designation for it exists in the literature that antedates the work of Westwood (1840). The type species of *Dexia*, by the operation of Opinion 71, is therefore *Musca volvulus* Fabricius, 1794, by designation of Westwood.

3. Westwood (1840), in common with nearly all later authors, recognised the composite nature of Meigen's concept of *Dexia* and adopted narrower genera for the originally included species. He used *Dexia* in a more restricted sense than Meigen and cited it (p. 139) as '*Dexia Latr.*'. Though not explicitly stated, this mode of citation can only have referred to Latreille (1829), his entry for *Dexia* in volume 5 of the second edition of Cuvier's '*Le règne animal . . .*', published three years after Meigen's original description of the genus. However, the attribution of subsequent instead of original authorship does not invalidate Westwood's type designation for *Dexia* (Code Article 67(f)).

Westwood noted that *volvulus* 'belongs to the s.g. *Phyllomyia* R.D.' a monotypic taxon (correctly *Phyllomya*) proposed by Robineau-Desvoidy (1830, p. 213) for *volvulus*. Under today's nomenclature Westwood's subgenus *Phyllomya* would be *Dexia* sensu stricto (the nominotypical subgenus) but use of the same name for the nominotypical subgenus and for the genus was not established practice in Westwood's time. His action means nomenclaturally that *Dexia* Meigen is a senior objective synonym of *Phyllomya* (both genera based on *volvulus*).

*Dr. Mesnil died on 17 May 1986 while this application was in press.

4. Another restricted constituent of the old *Dexia* was defined by Westwood (p. 140) and named by him 'Dexilla Westw.' It was stated to contain three species, but only one — the typical species in the sense of Westwood's work — was named, viz. *Musca rustica* Fabricius, 1775 (cited as '*D. rustica* Meig.'). Hence *rustica* Fabricius is type species of *Dexilla* Westwood by original designation and also by monotypy. (Westwood noted, p. 140, by using a bracket-linked entry of the names, that his taxon *Dexilla* was equivalent to '*Dexia Mcq. nec Latr.*': evidently a reference to Macquart, (1835, p. 211), but this is not nomenclaturally relevant.)

5. Westwood's 'Synopsis' was overlooked by nearly all 19th century British and continental European dipterists, and the name *Dexilla* Westwood has even been omitted from each major British work this century that should have accounted for it, e.g. the revisionary handbooks on British Tachinidae by Wainwright (1928) and Emden (1954) and the checklist of British insects by Kloet & Hincks (1945). No 19th century author adopted Westwood's classification, i.e. that with *Dexia* (syn. *Phyllomya*) based on *volvulus* and *Dexilla* based on *rustica*; instead they either (Zetterstedt 1844, 1849, 1855; Walker 1849, 1853) placed *rustica* and *volvulus* congenerically in *Dexia*, or (Rondani 1862; Schiner 1862; Brauer & Bergenstamm, 1889) placed *rustica* in *Dexia* and *volvulus* in *Melanota* Rondani, 1853 (replacement name for *Melania* Meigen, 1838, preoccupied). So far as we know, Schiner's (1862, p. 558) citation of *Dexilla* (as a synonym of *Dexia*) is the only subsequent mention of this name in 19th century literature. Walker knew Westwood but nevertheless neglected to mention Westwood's *Dexilla* in his works on British Diptera, though he referred (Walker 1853, p. 94) to '*Dexia* et *Dinera*, Westw.' in synonymy with *Dexia*.

6. Rondani (1856, p. 84) designated *Musca carinifrons* Fallén, 1816, an originally included species in *Dexia* Meigen, and this is the earliest type designation for *Dexia* if Westwood's is rejected. However, acceptance of Rondani's designation would cause nomenclatural havoc, irrespective of whether he identified *carinifrons* correctly, because this name (by virtue of its senior synonymy over *Dinera grisea* Robineau-Desvoidy, 1830) is the valid name of the type species of *Dinera* Robineau-Desvoidy, 1830. This genus is now universally accepted as distinct from *Dexia* (e.g. see Herting 1984, p. 140).

7. Brauer & Bergenstamm (1889) cited only *rustica* Fabricius as included in *Dexia*, but this action constitutes mention of an 'example' species in the meaning of Opinion 98 (1928) on the Brauer & Bergenstamm works; their action is therefore ineligible for consideration as a type species designation.

8. The influential catalogue by Bezzi (1907) of the Palaearctic TACHINIDAE did not cite type species as such but it established a definitive usage by which — in accordance with the precedents set by Rondani in a later work (1862, pp. 73–74), and by Schiner, Brauer & Bergenstamm, and others — the name *Dexia* was used for the genus containing *rustica*. *Phyllomya* Robineau-Desvoidy was correctly restituted as the valid senior

synonym over *Melania* and *Melanota* for the genus containing *volvulus*. *Dexilla* was listed by Bezzi (1907, p. 445) as a synonym of *Dexia*.

9. Coquillett (1910) dealing with type species formally for dipterous genera occurring in North America, cited *rustica* as type of *Dexia* Meigen by designation of Westwood, 1840; *Dexilla* was therefore listed by Coquillett as a junior objective synonym of *Dexia*. The Bezzi classification, supported by Coquillett's designation, became firmly entrenched and universally used in the Palaearctic literature and continues so today. It is used, for example, in the new catalogue of Palaearctic TACHINIDAE by Herting (1984). The present application seeks to validate this nomenclatural treatment by Commission action.

10. Townsend (1916, p. 10) noted Coquillett's 'misconstruction' of Westwood, pointed out that *Dexia* as used by Brauer & Bergenstamm (i.e. for *rustica*) should be *Dexilla* Westwood, and (p. 6) cited *volvulus* Fabricius as type species of *Dexia*. The appearance of Opinion 71 in 1922 effectively validated Townsend's nomenclatural standpoint, not Coquillett's, and in his grand opus 'Manual of Myiology' Townsend (1936a, p. 120; 1936b, p. 12; 1938, p. 276; 1939, p. 21) held fast to the correct nomenclature, basing *Dexia* Meigen on *volvulus* by designation of Westwood, 1840, and *Dexilla* on *rustica* by monotypy (using also a suprageneric nomenclature so based). In this he has since been almost wholly ignored. Post-Townsend only Sabrosky & Arnaud (1965) have considered *volvulus* to be type-species of *Dexia*, with *Phyllomya* R. D. as its synonym, though in doing so they recognised that their action — though nomenclaturally impeccable — was out of step with prevailing practice and commented (p. 1022) to this effect.

11. We concur with Townsend's view that Coquillett misconstrued Westwood's action. Westwood, in a work planned as a compendium of genera and stated intentionally to be a likeness to Latreille's (1810) 'Considérations générales... tableau méthodique de leurs genres'... etc., characterised as separate genera *Dexia* and *Dexilla*, naming *volvulus* as the typical species of the former and *rustica* of the latter. Why would he diagnose *Dexilla* as a genus distinct from *Dexia* if he intended *rustica* to be type of *Dexia*? Coquillett's assertion that Westwood designated *rustica* both as type of *Dexia* and of *Dexilla* is untenable and Townsend rightly rejected it.

12. We consider that, interpreting Westwood's action and the effect of Opinion 71, there is no doubt that *volvulus* Fabricius is the type species of *Dexia* Meigen. However, as in taxonomic practice the genus *Dexia* Meigen is based by specialists on *rustica*, not *volvulus*, and the difference affects correlated family-group nomenclature, it is highly desirable for prevailing usage to be ratified by Commission action. This will ensure a uniform and stable nomenclature for the genera concerned and their associated family-group nomenclature. Currently concerned specialists have all adopted *Dexia* in the usage sense based on *rustica*, and each has noted (in publication) the need for Commission action to authorise this. Crosskey (1973, p. 41) gave a general comment on the situation, and he (Crosskey 1976, p. 177; 1977, p. 601; 1980, p. 831), Mesnil (1980, p. 39) and Herting (1984, p. 143) have all

marked their citations for *Dexia* type with a statement that suspension of I.C.Z.N. rules is required. This application is to achieve that suspension.

13. In the light of the foregoing statement, the Commission is asked:
 - (1) to use its plenary powers to set aside all designations of type species hitherto made for the nominal genus *Dexia* Meigen, 1826, and to designate *Musca rustica* Fabricius, 1775, as the type species of that genus;
 - (2) to place the following names on the Official List of Generic Names in Zoology:
 - (a) *Dexia* Meigen, 1826 (gender: feminine), type species by designation under the plenary powers in (1) above, *Musca rustica* Fabricius, 1775;
 - (b) *Phyllomya* Robineau-Desvoidy, 1830 (gender: feminine), type species by monotypy, *Musca volvulus* Fabricius, 1794;
 - (3) to place the following names on the Official List of Specific Names in Zoology:
 - (a) *rustica* Fabricius, 1775, as published in the binomen *Musca rustica* (specific name of the type species of *Dexia* Meigen, 1826);
 - (b) *volvulus* Fabricius, 1794, as published in the binomen *Musca volvulus* (specific name of the type species of *Phyllomya* Robineau-Desvoidy, 1830);
 - (4) to place on the Official Index of Rejected and Invalid Names in Zoology:
 - (a) *Dexilla* Westwood, 1840 (gender: feminine), type species *Musca rustica* Fabricius, 1775 (a junior objective synonym of *Dexia* Meigen, 1826, through the action under the plenary powers in (1) above).

REFERENCES

- BEZZI, M. 1907. Tachinidae, pp. 189–597, in Becker, T., Bezzi, M., Kertész, K. & Stein, P. (Eds.), *Katalog der Paläarktischen Dipteren*, vol. 3, 828 pp., Budapest.
- BRAUER, F. & BERGENSTAMM, F. E. VON. 1889. Die Zweiflügler der Kaiserlichen Museums zu Wien. IV. Vorarbeiten zu einer Monographie der Muscaria schizometopa (exclusive Anthomyidae). *Denkschr. Akad. Wiss., Wien*, vol. 65, pp. 69–180.
- COQUILLET, D. W. 1910. The type-species of the North American genera of Diptera. *Proc. U.S. natn. Mus.*, vol. 37, pp. 499–647.
- CROSSKEY, R. W. 1973. A conspectus of the Tachinidae (Diptera) of Australia, including keys to the supraspecific taxa and taxonomic and host catalogues. *Bull. Br. Mus. nat. Hist. (Entomol.) Suppl.* 21, pp. 1–221.
- 1976. A taxonomic conspectus of the Tachinidae (Diptera) of the Oriental region. *Bull. Br. Mus. nat. Hist. (Entomol.) Suppl.* 26, pp. 1–357.

- 1977. Family Tachinidae. Pp. 586–697, in Delfinado, M. D. & Hardy, D. E. (Eds.), *A catalog of the Diptera of the Oriental region*. Vol III, Suborder Cyclorrhapha (excluding Division Aschiza). x + 854 pp., University Press of Hawaii.
- 1980. Family Tachinidae. Pp. 822–882, in Crosskey, R. W. (Ed.), *Catalogue of the Diptera of the Afrotropical region*. 1437 pp., British Museum (Natural History).
- EMDEN, F. I. VAN 1954. Diptera Cyclorrhapha Calyptrata (I) Section (a). Tachinidae and Calliphoridae. *Handbk Ident. Br. Insects*, Vol. X, part 4(a), 133 pp., Royal Entomological Society of London.
- FABRICIUS, J. C. 1775. *Systema entomologiae, sistens insectorum classes, ordines, genera, species adiectis synonymis, locis, descriptionibus, observationibus*. 832 pp., Flensburg & Leipzig.
- 1794. *Entomologia systematica emendata et aucta. Secundum classes, ordines, genera, species adiectis synonymis, locis, observationibus, descriptionibus*. Vol. 4, 472 pp., Copenhagen.
- HERTING, B. 1984. Catalogue of Palearctic Tachinidae (Diptera). *Stuttg. Beitr. Naturk (A)*, No. 369, 228 pp., Stuttgart.
- I.C.Z.N. 1922. Opinions rendered by the International Commission on Zoological Nomenclature: Opinions 68–77. *Smithson. misc. Collns*, Vol. 73, No. 1, pp. 1–73.
- KLOET, G. S. & HINCKS, W. D. 1945. *A check list of British Insects*. lix + 483 pp., Kloet & Hincks, Stockport.
- LATREILLE, P. A. 1810. *Considérations générales sur l'ordre naturel des animaux composant les classes des Crustacés, des Arachnides et des Insectes; avec un tableau méthodique de leurs genres, disposés en familles*. 444 pp., Paris.
- 1829. Suite et fin des insectes. In Cuvier, G. L. C. F. D., *Le Règne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée*. Ed. 2, vol. 5, xxiv + 556 pp. Paris.
- MACQUART, J. 1835. *Histoire naturelle des Insectes. Diptères*. Vol. 2, 703 pp., Paris.
- MEIGEN, J. W. 1826. *Systematische Beschreibung der bekannten europäischen zweiflügeligen Insekten*, vol. 5, xii + 412 pp., Hamm.
- MESNIL, L. P. 1980. Dexiinae. *Fliegen palaearkt. Reg.*, vol. 64f (part), pp. 1–52.
- ROBINEAU-DESVOIDY, J. B. 1830. Essai sur les Myodaires. *Mém. pres. div. Sav. Acad. Sci. Inst. Fr.*, vol. 2, pp. 1–813.
- RONDANI, C. 1856. *Dipterologiae italicae prodromus*. Vol. 1, 226 pp., Parma.
- 1862. *Dipterologiae italicae prodromus*. Vol. 5, 239 pp., Parma.
- SABROSKY, C. W. & ARNAUD, P. H. 1965. Family Tachinidae (Larvaevoridae). Pp. 961–1108, in Stone, A. et al. (Eds.), *A catalog of the Diptera of America north of Mexico. Agric. Handb.*, No. 276, iv + 1696 pp., Washington, D.C.
- SCHINER, I. R. 1862. *Fauna austriaca. Die Fliegen (Diptera)*. Vol. I. [part], pp. 441–674. Vienna.
- TOWNSEND, C. H. T. 1916. Designations of muscoid genotypes, with new genera and species. *Insector Inscit. menstr.*, vol. 4, pp. 4–12.
- 1936a. *Manual of Myiology*. Vol. 3, 255 pp., São Paulo.
- 1936b. *Manual of Myiology*. Vol. 4, 309 pp., São Paulo.
- 1938. *Manual of Myiology*. Vol. 7, 434 pp., São Paulo.
- 1939. *Manual of Myiology*. Vol. 9, 270 pp., São Paulo.
- WAINWRIGHT, C. J. 1928. The British Tachinidae (Diptera). *Trans. entomol. Soc. Lond.*, Vol. 76, pp. 139–254.

- WALKER, F. 1849. *List of specimens of dipterous insects in the collection of the British Museum* [part]. Vol. 4, pp. 688–1172.
- 1853. *Insecta britannica. Diptera*. Vol. 2, vi + 297 pp.
- WESTWOOD, J. O. 1840. *Synopsis of the genera of British insects*. 158 pp. [Issued as separately paginated supplement to volume 2 (1840) of Westwood's 'An introduction to the modern classification of insects . . .', London].
- ZETTERSTEDT, J. W. 1844. *Diptera scandinaviae disposita et descripta* [part]. Vol. 3, pp. 895–1280, Lund.
- 1849. *Diptera scandinaviae disposita et descripta* [part]. Vol. 8, pp. 2935–3366, Lund.
- 1855. *Diptera scandinaviae disposita et descripta* [part]. Vol. 12, pp. xx + 4587–4942.